REMARKS

Claims 1, 4, 6-8, 12, 14, 16, 18-20, 22, 24, 25, 27, 29, 30, 32, 34, 35, 37, 39, and 40 are pending in the current application. Claims 16, 18-20, 22, 24, 25, 27, 29, 30, 32, 34, 35, 37, 39, and 40 stand allowed, and Applicants thank the Examiner for so noting. Claims 1, 4, 6-8, 12, and 14 currently stand rejected, and claims 1, 16, 18, 19, 20 have been amended.

Claim Rejections – 35 U.S.C. § 101

Claims 1, 4, 6-8, 12, and 14 stand rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. Applicants respectfully traverse this rejection for the reasons detailed below.

With regard to claim 1, the Examiner states that the claims recite data structures imparting no function to a structure such as a computer. Applicants initially note that claim 1 has been amended to clarify that the claimed data structures include an "in-point and out-point at which **the reproducing apparatus is to reproduce a clip stream file**" and that "first duration information **indicating whether the reproducing apparatus is to display**" the still picture for a particular duration. Applicants have further clarified that the recited "mapping information" provides functionality of "the unit clip stream file is **presented by the reproducing apparatus at the presentation time**." In light of these amendments, Applicants respectfully submit that claim 1 recites functional data structures, which are statutory based on the following discussion of caselaw.

Data structures, recited as recorded on a computer readable medium, constitute statutory subject matter if they impart function to a computer. Applicants respectfully submit that MPEP § 2106.01 states the following:

> In this context, "functional descriptive material" consists of ***data structures*** and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited music, literary works and a compilation or mere arrangement of data.

Applicants thus submit that data structures recorded on a computer readable medium may constitute statutory subject matter. MPEP § 2106.01 further states:

> Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, [In re Warmerdam,] 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (discussing patentable weight of data structure limitations in the context of a statutory claim to a data structure stored on a computer readable medium that increases computer efficiency) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory).

In view of the above, a more detailed discussion of In re Lowry is warranted. Claim 1 of the patent at issue in In re Lowry recites:

> 1. A memory for storing data for access by an application program being executed on a data processing system, comprising:

> ***a data structure stored in said memory, said data structure including information resident in a database used by said application program and including:***
>
> a plurality of attribute data objects stored in said memory, each of said attribute data objects containing different information from said database; a single holder attribute data object for each of said attribute data objects, each of said holder attribute data objects being one of said plurality of attribute data objects, a being-held relationship existing between each attribute data object and its holder attribute data object, and each of said attribute data objects having a being-held relationship with only a single other attribute data object, thereby establishing a hierarchy of said plurality of attribute data objects; a referent attribute data object for at least one of said attribute data objects, said referent attribute data object being nonhierarchically related to a holder attribute data object for the same at least one of said attribute data objects and also being one of said plurality of attribute data objects, attribute data objects for which there exist only holder attribute data objects being called element data objects, and attribute data objects for which there also exist referent attribute data objects being called relation data objects; and an apex data object stored in said memory and having no being-held relationship with any of said attribute data objects, however, at least one of said attribute data objects having a being-held relationship with said apex data object.

In finding that the printed matter cases have no factual relevance to the claims at issue in In re Lowry, the court stated:

> Nor are the data structures analogous to printed matter. Lowry's ADOs do not represent merely underlying data in a database. ADOs contain both information used by application programs and information regarding their physical interrelationships within a memory. Lowry's claims dictate how application programs manage information. Thus, Lowry's claims define functional characteristics of the memory.

In re Lowry, at 1034. The court further noted:

> Indeed, Lowry does not seek to patent the Attributive data model in the abstract. Nor does he seek to patent the content of information resident in a database. ***Rather, Lowry's data structures impose a physical organization on the data***.

Id. (emphasis added). And, on the issue of abstract ideas, the Federal Circuit in In re Lowry noted:

> More than mere abstraction, the data structures are specific electrical or magnetic structural elements in a memory. According to Lowry, ***the data structures provide tangible benefits: data stored in accordance with the claimed data structures are more easily accessed, stored, and erased***. Lowry further notes that, unlike prior art data structures, Lowry's data structures simultaneously represent complex data accurately and enable powerful nested operations. ***In short, Lowry's data structures are physical entities that provide increased efficiency in computer operation***.

Id. at 1035 (emphasis added).

Claim 1 as amended are analogous to the claims in In re Lowry, and as such are statutory subject matter. Unlike the claims of In re Warmerdam, the claims of the subject application do not recite mathematical equations, or the generation of data structures using mathematical equations. Rather, as in In re Lowry, the claims as amended recite an "in-point and out-point at which **the reproducing apparatus is to reproduce a clip stream file,**" that "first duration information **indicating whether the reproducing apparatus is to display,**" the still picture indefinitely, and that "mapping information" provides functionality of "the unit clip stream file is **presented by the reproducing apparatus at the presentation time**," all dictating how the recited data structures control and manage display functionality of the reproducing device. Accordingly, because the recited computer readable medium stores a data structure for imparting functionality to a reproduction device, the claims are directed toward a computer readable medium storing functional descriptive material. Put in the language of MPEP § 2106.01, the claims are directed to a

claimed computer readable medium storing a data structure defining structural and functional interrelationships between the file areas and the computer software and hardware components which permit the directory's functionality to be realized, and is thus statutory.

In light of the above, Applicants respectfully request that the rejection of claims 1, 4, 6-8, 12, and 14 under 35 U.S.C. § 101 be withdrawn.

Allowable Subject Matter

Claims 16, 18-20, 22, 24-25, 27, 29-30, 32, 34-35, 37, and 39-40 are allowed. Applicants have made only minor amendments to these claims to clarify antecedent basis and pluralities of recited structures. Maintenance of the allowabilty of these claims is respectfully requested.

CONCLUSION

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of claims 1, 4, 6-8, 12, 14, 16, 18-20, 22, 24, 25, 27, 29, 30, 32, 34, 35, 37, 39, and 40 in connection with the present application is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Ryan Alley at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. §1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY, & PIERCE, P.L.C.

By 

Ryan E. Alley, Reg. No. 60,977
Gary D. Yacura, Reg. No. 35,416
P.O. Box 8910
Reston, Virginia 20195
(703) 668-8000

GDY/REA: tlt